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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,167	02/20/2004	Wade D. Vinson	200400248-1	7170

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EXAMINER

LE, DANG D

ART UNIT PAPER NUMBER

2834

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,167

Applicant(s)

VINSON ET AL.

Examiner

Dang D. Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/20/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-21 in the reply filed on 6/6/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the outer diameter and the inner diameter in claim 21 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 13 and 18, it is not clear how the ground planes are electrically isolated by a resistor. If the ground planes are connected by a resistor, they are not electrically isolated.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sunaga et al. (6,297,572).

Regarding claim 13, Sunaga et al. shows a cooling fan (Figure 1), comprising:

- An impeller (10);
- A three-phase DC motor, comprising:

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- A rotor (7) mechanically coupled to the impeller;
- A stator (5, 6) operable to induce rotation of the rotor;
- A circuit board (33) comprising a first electrical ground and a second electrical ground electrically isolated from the first electrical ground;
- A plurality of switching devices (40) electrically coupled to the stator, wherein the plurality of switching devices are grounded via the first electrical ground; and
- A processor (31) operable to control the plurality of switching devices, wherein the processor is grounded via the second electrical ground (inherently, otherwise the circuit is burned).

Regarding claims 14-17, it is noted that Sunaga et al. also shows all of the limitations of the claimed invention including a starting circuit (43) operable to slow start the three-phase DC motor.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1, 2, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papa et al. (6,175,490) in view of von der Heide et al. (Re. 36,168).

Regarding claim 1, Papa et al. shows an electronic device (Figure 6), comprising:

- A redundant, hot-plug cooling fan (566A, 566B) operable to induce a flow of air through the electronic device, the cooling fan comprising:
- a fan impeller (Figure 6).

Papa et al. does not show a three-phase DC motor coupled to the fan impeller.

Von der Heide et al. shows a three-phase DC motor (Figure 2) coupled to the fan impeller (141) for the purpose of having less bulky coil ends.

Since Papa et al. and von der Heide et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to couple a three-phase DC motor to the fan impeller as taught by von der Heide et al. for the purpose discussed above.

Regarding claims 2, 11, and 12, it is noted that von der Heide et al. also shows the three-phase DC motor comprising: a rotor (17B) coupled to the fan impeller; and a

stator (10) operable to receive three-phase DC power and produce a magnetic field to induce rotation in the rotor.

10. Claims 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papa et al. in view of von der Heide et al. and further in view of Sunaga et al. (6,617,719).

Regarding claim 3, the device of Papa et al. modified by Von der Heide et al. includes all of the limitations of the claimed invention except for the three-phase DC motor comprising a circuit board having a first ground plane and a second ground plane.

Sunaga et al. shows a DC motor comprising a circuit board (30) having a first ground plane (for 31) and a second ground plane (for 41) for the purpose of controlling the operation of the motor.

Since Papa et al., von der Heide et al., and Sunaga et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a printed circuit board with first and second ground planes as taught by Sunaga et al. for the purpose discussed above.

Regarding claims 4-10, it is noted that Papa et al., von der Heide et al., and Sunaga et al. also shows all of the limitations of the claimed invention.

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al. in view of Patyk et al. (5,939,807).

Regarding claim 18, Sunaga et al. shows all of the limitations of the claimed invention except for the second ground plane being electrically isolated from the first ground plane by a resistor.

Patyk et al. shows the second ground plane being electrically isolated from the first ground plane by a resistor (Figure 9) for the purpose of limiting current flow.

Since Sunaga et al. and Patyk et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to isolate the second ground plane electrically from the first ground plane by a resistor as taught by Patyk et al. for the purpose discussed above.

12. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al. in view of Petersen (5,874,796).

Regarding claims 19 and 20, Sunaga et al. shows all of the limitations of the claimed invention except for the rare earth magnet comprising bonded neodymium-iron-boron.

Petersen shows the rare earth magnet comprising bonded neodymium-iron-boron for the purpose of increasing magnetic flux density.

Since Sunaga et al. and Petersen are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the rare earth magnet comprising bonded neodymium-iron-boron as taught by Petersen for the purpose discussed above.

Regarding claim 21, Sunaga et al. shows all of the limitations of the claimed invention except for each bearing in the bearing assembly having an outer diameter that is more than three times the inner diameter of the bearing. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set each bearing in the bearing assembly with an outer diameter that is more than three times the inner diameter of the bearing since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Information on How to Contact USPTO

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D. Le whose telephone number is (571) 272-2027. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6/17/05

A handwritten signature in black ink, appearing to read 'Dangle', is positioned above the printed name.

DANGLE
PRIMARY EXAMINER